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(54) Title: METHOD AND APPARATUS FOR AGGREGATED SECURITIES BROKERAGE SERVICE

(57) Abstract: An investment system is provided that enables a plurality of investors to execute trades of securities. The system includes a plurality of communication links and a processor in electronic communication with the plurality of investors through the plurality of communication links. The processor includes an aggregation routine that receives order instructions from each investor, aggregates security trade instructions from the plurality of investors to create an aggregated trade order for each of a plurality of securities and executes the aggregated trade order on behalf of the plurality of investors. The processor further includes a routine that calculates commissions for aggregated trade orders and deducts the calculated commission from an aggregated amount of investment available to the aggregated trade for each security. A storage system is coupled to the processor that stores and distributes information about each aggregated trade order.

METHOD AND APPARATUS FOR AGGREGATED SECURITIES BROKERAGE SERVICE

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BACKGROUND

Field of the Invention:

This invention relates generally to systems and methods that enable investors to execute trades of securities, and more particularly to systems and methods that aggregate multiple investors and create aggregated orders for the trading of securities.

Description of the Related Art:

Currently, the average investor has an opportunity to participate in the purchase of commercial instruments, such as stock or equities, bonds, mutual funds, annuities, derivatives and other commercial instruments. Generally, the average investor has the choice of using either a standard brokerage service or on-line trading brokerage service for the purchase of commercial instruments.

Mutual funds are popular with investors because they are professionally managed and allow for reasonably cost effective portfolio diversification. A mutual fund, in the simplest form, comprises a series of individual commercial instruments, typically stocks and bonds, which are generally selected and managed by one or more fund managers. An investor purchases an interest in the mutual fund, generally reflected in a number of shares (including fractions thereof) of the fund. However, the investor may not trade or select the individual commercial instruments (e.g., stocks and bonds) comprising the mutual fund. Moreover, the investor may not control the timing of purchases or sales of commercial instruments by the mutual fund, which can result in undesirable tax implications as commercial instruments are purchased and sold within the mutual fund.

For instance, mutual funds that execute a high percentage of trades or transactions of the commercial instruments in the fund will typically generate taxable distributions, dependent upon the tax attributes of the instruments involved and the nature of the

transactions. These taxable distributions generate net tax gains which are assessed to the fund, and as a result are assessed to the investor participating in the fund. As a result, the investor is assessed with the tax gains earned from the fund manager's activities even though the individual investor has not engaged in any transaction in the fund during the particular tax year.

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Because of these and other limitations and shortcomings of mutual funds, many investors prefer to make some or all of their investments in financial instruments and other investments directly through brokerage services. Currently, there are two general types of brokerage services, the traditional brokerage service and the on-line or Internet brokerage service.

The traditional brokerage service allows for the use and advice of a licensed broker to assist in the selection and enable the purchase of commercial instruments, which typically is non-cost effective for the typical, less affluent investor, as the service fees from a traditional brokerage service tend to be significant, particularly in relation to smaller purchases of securities. An investor, wishing, for example, to invest \$1,000 per month, divided evenly among the common stocks of four companies, might be required to pay a traditional brokerage service more than \$100 for each such trade, reducing the \$1,000 dollar monthly investment to an amount less than \$600. An additional drawback to traditional brokerage services for the small investor is the general requirement to purchase a minimum number of shares of any given stock (round lots of 100 shares per transaction), thereby further limiting the ability to efficiently accumulate a diversified portfolio on a gradual basis.

On-line or Internet brokerage services have resolved or mitigated some of the above inefficiencies by generally charging much lower fees for non-broker assisted transactions and by allowing investors to purchase shares of a individual stocks in any whole share amounts desired. For instance, an investor can purchase one, ten, or any number of shares of a particular single stock for a set specific transaction fee. Because trades by on-line brokers are executed individually on a "real-time" basis, the fee charged for each transaction

can still be very large in proportion to an individual trade that is part of a gradual pattern of smaller investments over time. Take, for example, an investor with only \$400 per month to invest, who wants to split that investment among the stocks of four companies. Even with a heavily discounted fee of only \$10 per trade, the investor is still paying a 10% commission per stock – a percentage large enough to dramatically impact the investor's return on investment.

The investor may be forced to purchase a limited number of shares selected for accumulation, or may be required to invest in larger blocks on a less frequent basis in order to keep transaction fees low. The ability to acquire a diversified portfolio could be severely diminished.

There is a need for a more efficient investing system that allows an investor to purchase a varied selection of commercial instruments in periodic transactions at much lower fees in a manner which is also economically viable for the operator of the investing system.

SUMMARY

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An object of the present invention is to provide a system and method that aggregates securities order instructions to execute trades of securities.

Another object of the present invention is to provide a system and method that aggregates securities order instructions and enables investors to create investment plans that permit the investor to control the amount of investment in a particular security.

Yet another object of the present invention is to provide a system and method that aggregates securities order instructions and enables investors to select the source of funds to be invested.

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Still another object of the present invention is to provide a system and method that aggregates securities order instructions and provides investors with flexibility in selecting the frequency of investment, amount of investment and type of investment.

Another object of the present invention is to provide a system and method that aggregates securities order instructions and allows an

investor to buy and sell securities in real-time or as part of a transaction cycle.

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A further object of the present invention is to provide a system and method that aggregates investors and permit each investor to set up their account online.

These and other objects of the present invention are achieved in an investment system that enables a plurality of investors to execute trades of securities.

The system includes a plurality of communication links and a processor in electronic communication with the plurality of investors through the plurality of communication links. The processor includes an aggregation routine that receives order instructions from each investor, aggregates security trade instructions from the plurality of investors to create an aggregated trade order for each of a plurality of securities and executes the aggregated trade order on behalf of the plurality of investors. The processor further includes a routine that calculates commissions for aggregated trade orders and deducts the calculated commission from an aggregated amount of investment available to the aggregated trade for each security. A storage system is coupled to the processor that stores and distributes information about each aggregated trade order.

In another embodiment of the present invention, an investment system enables a plurality of investors to execute trades of securities. The system includes a plurality of communication links and a processor in electronic communication with the plurality of investors through the plurality of communication links. The processor includes an aggregation routine that receives order instructions from each investor of the plurality, aggregates security trade instructions from the plurality of investors to create an aggregated trade order for a security, and executes the aggregated trade order on behalf of the plurality of investors. The processor further includes an investor account set-up routine that sets up investor accounts and executes investor trade instructions for each investor. A storage system coupled to the processor that stores and distributes information about each aggregated trade order.

In another embodiment of the present invention, an investment system enables a plurality of investors to execute trades of securities. A processor is in electronic communication with the plurality of investors through a plurality of communication links. The processor includes a routine that allocates fractional shares of each purchased security to an investor's account based on each investor's fraction of an aggregated trade order. The fractional shares are determined based on the ratio of each investor's dollar contribution to the aggregated trade order. A storage is coupled to the processor that stores and distributes information about each aggregated trade order.

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In another embodiment of the present invention, an investment system includes a processor in electronic communication with a plurality of investors through a plurality of communication links. The processor includes an aggregation routine that receives order instructions from each investor of the plurality, aggregates security trade instructions from the plurality of investors to create an aggregated trade order for a security, and executes the aggregated trade order on behalf of the plurality of investors. A storage system is coupled to the processor that stores and distributes information about each aggregated trade order. A communication link couples the investment system to an electronic user interface operated by a second party. *A user interface of second party is at least partially overlaid over the user interface of the investment system to create a modified investment system user interface.

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In another embodiment of the present invention, a securities investment system is provided that enables a plurality of individual investors to establish plans for the execution of one time or recurring periodic trades of securities in dollar-based amounts. A processor is in electronic communication with the plurality of investors through a plurality of communication links. The processor includes a customer account set-up and edit module, an investment plan set-up and edit module, an investment scheduling routine that receives investment order instructions from each investor in the plurality, and a trade aggregation module which aggregates security trade instructions from the plurality of investors to create an aggregated trade order for each

security offered by the investing system for which order instructions have been received, and executes the aggregated trade order on behalf of the plurality of investors. A storage and reporting module is included which receives, organizes and provides reports concerning data provided to the processor by investors and data relating to investor transactions.

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In another embodiment of the present invention, a method is provided of co-branding investing systems. An investment system is provided that includes a processor in electronic communication with a plurality of investors through a plurality of communication links. The processor includes an aggregation routine that receives order instructions from each investor of the plurality, aggregates security trade instructions from the plurality of investors to create an aggregated trade order for a security, and executes the aggregated trade order on behalf of the plurality of investors. A storage system is coupled to the processor. The storage system stores and distributes information about each aggregated trade order. The investment system includes an investment user interface. A communication link is provided that couples the investment system to an electronic user interface operated by a second party such as a bank, credit union, web portal, membership organization or other entity. The user interface of the second party is at least partially overlaid over the user interface of the first investment system. A modified investment system user interface is created which contains the logos, trademarks or other features associated with the second party, but which also retains all or certain of the features and functions of the investment system.

In another embodiment of the present invention, a method for executing trading of securities determines qualifying accounts and investment instructions. An aggregated transaction is created by aggregating similar investment instructions. An order for the aggregated transaction is created. Commissions for the aggregated transaction are calculated. The order is then executed.

In another embodiment of the present invention, a method for executing trading of securities determines qualifying accounts and investment instructions. An aggregated transaction is created by aggregating similar investment instructions. An order for the aggregated transaction is created. The order is then executed. Factional shares of each purchased security are allocated to an investor's account based on each investor's fraction of the aggregated trade order.

BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 is a schematic diagram illustrating one embodiment of a computing environment used with the investment system of the present invention.

Figure 2 is a schematic diagram illustrating that the Figure 1 server is coupled to a dynamic database.

Figure 3(a) is a schematic diagram of one embodiment of the investment system of the present invention.

Figure 3(b) is a flow chart illustrating one embodiment of the overall method implemented by the Figure 3(a) investment system.

Figure 4 is a flow chart illustrating an account management routine of the present invention.

Figure 5 is a flow chart illustrating how the Figure 3(a) investment system initiates a transaction cycle.

Figure 6 is a flow chart illustrating aggregation by the recurring transaction engine of the Figure 3(a) investment system.

Figure 7 is a flow chart illustrating how the Figure 3(a) investment system calculates commissions.

Figure 8 is a flow chart illustrating aggregation of investment dollars by the Figure 3(a) investment system.

Figure 9 is a flow chart illustrating requesting price quotes.

Figure 10 is a flow chart illustrating creation of an order by the Figure 3(a) investment system.

Figure 11 is a user interface of system 80 prior to co-branding. Figure 12 is a co-branded user interface.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

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Figure 1 and the following description are intended to provide a general description of a suitable computing environment in which the present invention may be implemented. Although not necessarily required, one embodiment of the present invention will be described in the general context of computer-executable instructions, such as program modules. Generally, program modules include routines, programs, objects, components, data structures and the like that perform particular tasks or implement particular abstract data types.

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Moreover, those skilled in the art will appreciate that the invention may be practiced with other computer system configurations, including hand-held devices, multi-processor systems, microprocessor-based or programmable consumer electronics, communication devices (e.g., conventional, cellular, or web-enabled phones), network PCs, minicomputers, mainframe computers and the like. The invention may also be practiced in distributed computing environments where tasks are performed by remote processing devices that are linked through a communications network. In a distributed computing environment, program modules may be located in both local and remote memory storage devices.

As shown in Figure 1, an exemplary general purpose computing system may include a conventional personal computer 10 or the like, including a processing unit 12, a system memory 14, and a system bus 16 that couples various system components including the system memory 14 to the processing unit 12. The system bus 16 may be any of several types of bus structures including a memory bus or memory controller, a peripheral bus, and a local bus using any of a variety of bus architectures. The system memory 14 may include read-only memory (ROM) 18 and random access memory (RAM) 20. A basic input/output system 22 (BIOS), containing the basic routines that help to transfer information between elements within the personal computer 10, such as during start-up, may be stored in ROM 18.

The personal computer 10 may further include a hard disk drive 24 for reading from and writing to a hard disk (not shown), a magnetic disk drive 26 for reading from or writing to a removable magnetic disk 28, and an optical disk drive 30 for reading from or writing to a

removable optical disk 32 such as a CD-ROM or other optical media. The hard disk drive 24, magnetic disk drive 26, and optical disk drive 30 may be connected to the system bus 16 by a hard disk drive interface 34, a magnetic disk drive interface 36, and an optical drive interface 38, respectively. The drives and their associated computer-readable media provide non-volatile storage of computer readable instructions, data structures, program modules and other data for the personal computer 10.

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Although the exemplary embodiment described herein may employ a hard disk, a removable magnetic disk 28, and a removable optical disk 32, or combination thereof, it should be appreciated by those skilled in the art that other types of computer readable media which can store data that is accessible by a computer, such as magnetic cassettes, flash memory cards, digital video disks, Bernoulli cartridges, random access memories (RAM's), read-only memories (ROMs) and the like may also be used in the exemplary operating environment.

A number of program modules may be stored on the hard disk, magnetic disk 28, optical disk 32, ROM 18 or RAM 20, including an operating system 40, one or more application programs 42, other program modules 44 and program data 46. A user may enter commands and information into the personal computer 10 through input devices such as a keyboard 48 and pointing device 50. Other input devices (not shown) may include a microphone or microphones. joystick, game pad, satellite disk, scanner, or the like. These and other input devices are often connected to the processing unit 12 through a serial port interface 52 that is coupled to the system bus 16, but may be connected by other interfaces, such as a parallel port, game port, or universal serial bus (USB). A monitor 54 or other type of display device may also be connected to the system bus 16 via an interface, such as a video adapter 56. In addition to the monitor 54, personal computers may typically include other peripheral output devices (not shown), such as speakers and printers.

The personal computer 10 may operate in a networked environment using logical connections to one or more remote

computers, such as a remote computer 58. The remote computer 58 may be another personal computer, a server, a router, a network PC, a peer device or other common network node, and typically includes many or all of the elements described above relative to the personal computer 10, although only a memory storage device 60 has been illustrated in Figure 1. The logical connections depicted in Figure 1 include a local area network (LAN) *51 and a wide area network (WAN) 62. Such networking environments are commonplace in offices, enterprise-wide computer networks, Intranets, and the Internet.

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When used in a LAN networking environment, the personal computer 10 is connected to the LAN *51 through a network interface or adapter 64. When used in a WAN networking environment, the personal computer 10 typically includes a modem 66 or other means for establishing communications over the wide area network 62, such as the Internet. The modem 66, which may be internal or external, is connected to the system bus 16 via the serial port interface 52. In a networked environment, program modules depicted relative to the personal computer 10, or portions thereof, may be stored in the remote memory storage device. It will be appreciated that the network connections shown are exemplary and other means of establishing a communications link between the computers may be used.

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It is further understood that different elements or components may be included or excluded from the general computing environment, or otherwise combined, to implement the concepts and teachings of the present invention as defined in the appended claims.

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As noted, the general-purpose computer described above can be deployed as part of a computer network. In general, the above description applies to both server computers and client computers deployed in a network environment. Figure 2 illustrates one such exemplary network environment in which the present invention may be employed. As shown in Figure 2, a number of servers 68a, 68b, etc., are interconnected via a communications network 70 (which may be a LAN, WAN, Intranet or the Internet) with a number of client computers 10a, 10b, 10c, etc. In a network environment in which the communications network 70 is, e.g., the Internet, the servers 68 can

be Web servers with which the clients 72 communicate via any of a number of known protocols such as, for instance, hypertext transfer protocol (HTTP). Each client computer 10 can be equipped with a browser 74 to gain access to the servers 68, and client application software 76. As shown in the embodiment of Figure 2, server 68a includes or is coupled to a dynamic database 78.

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As shown, the database 78 may include database fields 78a, which contain information about items stored in the database 78. For instance, the database fields 78a can be structured in the database in a variety of ways. The fields 78a could be structured using linked lists, multi-dimensional data arrays, hash tables, or the like. This is generally a design choice based on ease of implementation, amount of free memory, the characteristics of the data to be stored, whether the database is likely to be written to frequently or instead is likely to be mostly read from, and the like. A generic field 78a is depicted on the left side. As shown, a field generally has sub-fields that contain various types of information associated with the field, such as an ID or header sub-field, type of item sub-field, sub-fields containing characteristics, and so on. These database fields 78a are shown for illustrative purposes only, and as mentioned, the particular implementation of data storage in a database can vary widely according to preference.

Thus, the present invention can be utilized in a computer network environment having client computers for accessing and interacting with the network and a server computer for interacting with client computers and communicating with a database with stored inventory fields. The present invention will now be described in more detail with reference to preferred embodiments.

Referring now to Figures 3(a) and 3(b), one embodiment of the present invention is an investment system 80 that enables a plurality of investors to execute trades of securities and other investment vehicles, including stocks, bonds, mutual funds, options, stock index funds, commodities, precious metals and the like. System 80 is configured to execute a number of different activities for investors, these include but are not limited to: accept account setup as well as

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one-time and recurring transaction instructions, evaluate active investment plans for active investment instructions, calculate a trade date credit balance of active investor accounts with active investment instructions to ensure the availability of sufficient funds, calculate commissions for each active investment instruction and deduct that amount to determine a net investment amount, aggregate, by security or other instrument, the net investment instructions of all investors participating in a given transaction cycle, interact with a third party quote service to obtain a price quote for each security, calculate the amount of each security or other instrument to be purchased based upon the quotes received, interact with a third party securities clearing firm to execute the aggregated orders, receive and process a report detailing all such transactions, allocate to each investor the number of shares of each security or other instrument, including fractions thereof, in direct proportion to such investor's contribution to the aggregated purchase of that security, and store and report information concerning all such transactions.

System 80 includes a plurality of communication links 82 and a processor 84 in electronic communication with the investors through the plurality of communication links 82. Communications, documents and duties performed by system 80 are performed online. All documents are sent by system 80 electronically to an investor's private account. When delivered the investor is notified of their delivery by a personal email or other means of electronic notification System 80 communicates with investors via a WAN, a LAN, a packet switch network, the internet and the like.

Through a system interface 86, illustrated in Figure 3(a), investors open and close accounts, obtain and manage their account information, input order instructions, establish recurring investment plans, fund accounts, request cash disbursements, obtain customer service, conduct research, and otherwise interact with and retrieve information from system 80.

System 80 includes a module that obtains active investment plans and instructions for investor accounts. Investor plans include one or more individual investment instructions to make individual one

time investments or to establish an investment plan involving recurring transactions. Investor's select from a list of securities and other investments from system 80's database and may invest in one or more stocks or investment products. To establish an investment plan involving recurring transactions, the investor determines the amount and timing of each investment by creating investment instructions that include transaction type (e.g., buy or sell), the security(ies) or other investment(s) to be purchased or sold, the dollar amount or number of shares or units, a schedule for investment such as weekly, bi-monthly, monthly or some other interval, and whether to have the system automatically reinvest dividends and so forth.

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Investors can suspend or remove any individual investment instruction without selling shares of a particular security and without affecting other investment instructions. Additionally, investors can modify their investment instructions for a particular security or other investment product at any time between investment cycles and activate or deactivate the reinvestment of dividends.

As illustrated in the flowchart of Figure 4, processor 84 can include an account management routine that stores and organizes personal identification and transaction information for each investor's account, as well as unique investor password information designed to prevent fraudulent use of the system. Processor 84 can also include an electronic document delivery system routine for the delivery of account statements, transaction notifications, promotional information and other communications to investors.

System 80 can include an electronic funding routine. The electronic account funding routine includes an accounting and credit posting routine that credits funds received by the system to an investor's account. Investors can fund their investment accounts by check, wire, payroll, direct deposit and automated clearinghouse transaction or by any other means of electronic funds transfer.

System 80 provides an automatic process to obtain funds from an investor immediately prior to each transaction cycle for which that investor has active investment instructions. At scheduled intervals, system 80 requests transfers of funds into investors accounts as

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follows: Any active onetime ACH requests or active investor plans that are scheduled for the upcoming cycle are selected for ACH processing. Only investor plans that have automatic bank withdrawal as their funding source are selected for ACH processing. The process creates an ASCII file of ACH requests. This file is subsequently transmitted to a bank or other third party selected by system 80. A pending journal entry to credit the investor's cash account is generated for each record in the ACH file transmitted to the bank. A onetime ACH request corresponds to one entry in the file and one preliminary journal entry crediting the customer cash account. The total plan dollars for all securities in an investor's plan corresponds to a single entry in the ACH file and one preliminary journal entry crediting the customer cash account. The bank then notifies the system that system 80's bank account has been credited with the aggregate dollar amount reflected in the ACH file transmitted to the bank on the previous business day. Pending journal entries are posted in a broker system to reflect the cash in the individual investor accounts. Investors have now established cash positions to finance investing via the upcoming transaction cycle.

initiated at predetermined times. System 80 constantly compares the current date/time with the cycles in the calendar of system 80. When the System's comparison routine identifies that a transaction cycle should commence, System 80 reviews the recurring transaction engine log to make sure an entry for the current cycle does not exist. In the present embodiment of the system, if a log entry indicates the current cycle has already been started then system 80 sends the system operator a prompt to cancel the request. On the other hand, if no such entry is found, System 80 asks for confirmation of the request to start the selected cycle. In the present embodiment of the system, a system operator confirms the request, System 80 logs the cycle as started and the system's recurring transaction engine is started. A cycle can only run during market hours. Figure 6 is a flow chart illustrating the

Referring to the flowchart of Figure 5, transaction cycles are

recurring transaction engine of system 80.

Upon initiation of a transaction cycle, system 80 evaluates investor scheduling instructions and identifies all of the investors participating in that cycle. System 80 obtains the active investment plans from the brokerage accounting system. System 80 discards any active plans that have already been processed during the current cycle. For each active investment instruction, system 80 evaluates the associated scheduling instruction to determine if the scheduling criteria have been met. If not, then system 80 evaluates the next instruction. If the scheduling criteria have been met, system 80 calculates the net investment amount. If the net investment amount for any of the instructions is insufficient, (e.g., less than \$1.00) system 80 proceeds to the "insufficient net investment" routine which includes making a record of the deficient investment instruction and sending an electronic notification to the investor.

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System 80 then calculates the trade date credit balance of each account with active investment instructions. If the account does not have a sufficient credit balance relative to such instructions, system 80 proceeds to an "insufficient credit" routine.

System 80 then calculates the commission for each active investment instruction. Figure 7 is a flowchart illustrating how system 80 examines a commission schedule and returns the commission applicable to an account and investment instruction. System 80 calculates the commission fees associated with a particular account and investment instruction and determines if there is a commission override associated with the account, all by reference to commission schedule data within the brokerage accounting system, including any special promotional codes that may be applicable to a particular account. The amount to be invested pursuant to each investment instruction is reduced by the applicable commission to arrive at a net investment amount.

Referring now to the flowchart of Figure 8, once individual qualifying transactions have been identified, system 80 commences an order aggregation and execution routine that consists of the following

steps:

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First, system 80 groups the qualified transactions by execution instruction type (buy or sell) and security and aggregates the net investment dollars by instruction type and security.

Second, as Figure 9 illustrates, system 80 submits requests for price quotes for each security to be purchased.

Third, the number of shares of each security to be purchased is calculated by dividing the dollar amount to be invested by the price quote received from the third-party price quoting service. If the number of shares so calculated results in a fractional share, the system 80 adjusts the number of securities to be purchased to some whole number by either rounding up, rounding down or some other means for adjusting the number of securities. Rounding up will require the operator of the investing system to provide additional cash to the aggregated investment amount, resulting in the system operator's ownership of a fractional share of the stock purchased commensurate with the amount so contributed.

Fourth, system 80 submits each of the aggregated order to a brokerage accounting system to prepare orders for submission to a securities clearing firm or other appropriate vendor. Figure 10 is a flowchart illustrating a process for preparing market orders. System 80 obtains an order number from the brokerage accounting system. An order is created with an order number, buy or sell indicator, the security symbol and the order type.

Fifth, aggregated orders are then sent to a securities clearing firm for execution. Upon completion, the clearing firm provides system 80 with an execution report that includes the price, time of transaction, market where executed, and an identifying order number. System 80 identifies suspended orders that require manual intervention.

A storage system 88 coupled to processor 84 receives and stores information about each aggregated trade order. The system 80 calculates the number of shares (including fractions thereof) from each aggregated purchase of securities that are to be allocated to each investor who participated in the aggregated purchase, based upon the

amount of such investor's investment in relation to the aggregated purchase amount.

System 80 reports the number of shares or other investments acquired, or sold, to each investor, along with execution price information. In the case of an aggregated purchase, processor 84 averages a buy price of the aggregated trade order when more than one trade is required to fulfill the aggregated order.

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Because the price of the stock will change during the time it takes to calculate the number of shares required and the actual purchase, an order for 950 shares may not be enough or may be to much, thus presenting the risk that the investor's instructions are not adequately carried out or that the broker must cover the acquisition of a position in ABC. These risks can be reduced by system 80.

In one embodiment, system 80 submits an order to a third party clearing firm for some substantial portion of the rounded quotient (i.e., 80% of 950 = 760). System 80 calculates the remaining available dollars for investment by subtracting the number of shares purchased from the original funds available (i.e., \$9,500). For example, if the 760 shares were actually purchased at \$9.50, only \$7,220 would have actually been used. Therefore \$2,280 remains to be invested and the process should be repeated. If any single order is filled with multiple executions, then a weighted average is used for the price.

Software of system 80 is configurable such that the percentage of shares that comprise the first order can be changed from 0 percent to 100 percent and the number of cycles can be set as well. These options facilitate highly granular control over each security available for purchase and mitigate the risks associated with the broker acquiring large positions in unfavorable stocks.

In another embodiment of the invention communication links 82 couple system 80 to an electronic user interface operated by a second party. A user interface of the first investment system is at least partially overlaid over the user interface of the second party to create a modified investment system user interface.

In this embodiment, system is offered as an application to help various entities enable their members to invest. System 80 can be

offered as a co-branded or private label dollar-based fractional share service to "host" organizations. Host organizations may include, but are not limited to commercial banks, credit unions, insurance companies, membership organizations, corporations, for employees, shareholder, and customers, universities (for students, employees, and alumni], credit card issuers, major stock market exchanges, institutions, consumer finance companies, tax preparers, financial advisors, companies, agents, third party administrators and associations. These entities are better equipped to service and retain their constituencies.

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This permits entities to offer the brokerage service of system 80 customized with each entity's name and identity prominently displayed, without the responsibility of creating the actual brokerage service itself. By offering a co-brand or private label which displays the entity's logos, system 80 has the "look and feel" of the entity.

Co-branding can be achieved by completing the following steps:

A DNS record is entered that associates the system 10's.com IP address with the new co-branded site.

Configuration information is entered into a configuration file that exists on the file system of the web server or in a backend database.

The backend databases are configured to associate customers acquired through the co-branded site with the seond party.

System 10's.com application code is deployed to the web application servers with configuration information previously specified.

Figure 11 is a user interface from system 80 prior to cobranding, while Figure 12 is a user interface of co-branded system 80. Customers experience co-branded versions of system 80 by entering the URL into a browser or select a link from the partner's website. The web application software reads the HTTP (hypertext transfer protocol). A request header is then made to determine which co-branded site the user is associated with. The web application software then responds by streaming HTML back to the user configured with parameters from the appropriate configuration data store (database or file system). If it is a new user, when the account is opened, the backend database

makes a permanent association between the user and the co brand ensuring that the partner is properly compensated. The co-branded website is addressable on the Internet via a customized URL. In ordinary cases, a web site operator enters a record into a DNS server that maps the IP address of the web site to the URL. The requirements are such that one IP address is required for each web site. If a web site operator desires to operate many web sites, each with a customized URL, one IP address would be required for each web site.

The foregoing description of a preferred embodiment of the invention has been presented for purposes of illustration and description. It is not intended to be exhaustive or to limit the invention to the precise forms disclosed. Obviously, many modifications and variations will be apparent to practitioners skilled in this art. It is intended that the scope of the invention be defined by the following claims and their equivalents.

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security; and

CLAIMS

1. An investment system that enables a plurality of investors to execute trades of securities, comprising:

a plurality of communication links;

5 a processor in electronic communication with the plurality of investors through the plurality of communication links, the processor including an aggregation routine that receives order instructions from each investor of the plurality, aggregates security trade instructions from the plurality of investors to create an aggregated trade order for each of a plurality of securities, and executes the aggregated trade order on behalf of the plurality of investors, the processor further including a routine that calculates commissions for aggregated trade orders and deducts the calculated commission from an aggregate

a storage system coupled to the processor that stores and

distributes information about each aggregated trade order.

amount of investment available to the aggregated trade for each

- 2. The system of claim 1, wherein the processor communicates with the plurality of investors via a WAN.
- 20 3. The system of claim 1, wherein the processor communicates with the plurality of investors via a LAN.
 - 4. The system of claim 1, wherein the processor communicates with the plurality of investors via a packet switch network.
- 5. The system of claim 1, wherein the processor communicates with the plurality of investors via the Internet.
 - 6. The system of claim 1, wherein the processor is configured to identify individual, joint, custodial, qualified individual retirement, or investment club accounts.

7. The system of claim 1, wherein the aggregation routine includes a scheduled trade instruction that initiates scheduled periodic trade cycles.

8. The system of claim 1, wherein the processor includes an electronic account funding routine.

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- 9. The system of claim 7, wherein the electronic account funding routine includes an accounting and credit posting routine that credits funds received by the system to an investor's account.
- 10. The system of claim 7, wherein the system is configured to enable investors to fund investment accounts by check, wire, payroll, direct deposit or automated clearinghouse transaction.
- 11. The system of claim 1, wherein the processor includes a module configured to be programmable by an investor to initiates an automated clearinghouse plan funding routine that automatically debits funds from an investor account at another institution and credits such funds to the investor's investment account within the investing system.
- 12. The system of claim 11, wherein the automated clearing house plan funding routine identifies the presence or absence of valid automated clearinghouse transactions for each investment order instruction from an investor, and submits the valid automated clearing house transactions to a third party automated clearing house vendor for processing.
- 13. The system of claim 1, wherein the processor includes a module that obtains active investment plans for active investor accounts.
- 14. The system of claim 1, wherein the processor identifies each active plan, and obtains active investment order instructions.

15. The system of claim 1, wherein the processor evaluates investor scheduling instructions to determine all investors participating in a given periodic investing cycle.

16. The system of claim 1, wherein the processor includes a module that aggregates investment order instructions for each security from each investor.

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- 17. The system of claim 1, wherein the processor evaluates buy and sell execution instructions.
- 18. The system of claim 1, wherein the processor calculates commissions associated with each participating investment instruction.
 - 19. The system of claim 18, wherein the processor calculates a net investment amount by subtracting the commission from each investment amount instruction in an investment order instruction.
- 15 20. The system of claim 1, wherein the processor interacts with a brokerage accounting system to suspend further execution instructions if a scheduled investment order instruction was for a one-time only trade.
 - 21. The system of claim 1, wherein the processor evaluates investment order instructions for active investor plans.
 - 22. The system of claim 1, wherein the processor calculates a trade date credit balance of active investor accounts with active investment order instructions to ensure the availability of sufficient funds for investment order instructions.
- 23. The system of claim 1, wherein the processor obtains a price quote for each security from a third party securities quote provider.
 - 24. The system of claim 1, wherein the processor divides the dollar amount of the aggregated trade order for each security by a price quote for each security to calculate a quantity and rounds the order

quantity up to the next number of whole shares if there is a fractional share.

- 25. The system of claim 1, wherein the processor creates an order for each security with an order number, buy or sell indicator, the security symbol and an aggregated trade order type.
- 26. The system of claim 1, wherein the processor groups transactions by investment order instruction type and security.

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- 27. The system of claim 1, wherein the processor submits the aggregated trade orders for a given periodic investing cycle to a third party clearing organization.
- 28. The system of claim 1, wherein the processor identifies in an electronic report suspended orders that require manual intervention.
- 29. The method of claim 1, wherein the processor receives an execution report from a clearing firm that is stored in a database in the storage.
 - 30. The system of claim 1, wherein the processor averages a buy price of the aggregated trade order when more than one trade is required to fulfill the aggregated order.
- 20 31. The system of claim 1, wherein the processor includes an account management routine that stores and organizes transaction information for each investor's account.
 - 32. The system of claim 1, wherein the processor includes an electronic document delivery system routine.
- 25 33. An investment system that enables a plurality of investors to execute trades of securities, comprising:
 - a plurality of communication links;
 - a processor in electronic communication with the plurality of investors through the plurality of communication links, the processor including an aggregation routine that receives order instructions from

each investor of the plurality, aggregates security trade instructions from the plurality of investors to create an aggregated trade order for a security, and executes the aggregated trade order on behalf of the plurality of investors, the processor further includes an investor account set-up routine that sets up vendor accounts and executes investor trade instructions for each investor; and

a storage system coupled to the processor that stores and distributes information about each aggregated trade order.

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- 34. The system of claim 33, wherein each trade instruction includes an execution of trades in at least one of real time, one time and regular recurring cyclical trades.
 - 35. The system of claim 33, wherein each set-up plan includes choice of an account type choice.
- 36. The system of claim 35, wherein each set-up plan further includes a choice of how to fund investments.
 - 37. The system of claim 36, wherein each set-up plan further includes a choice of securities.
 - 38. The system of claim 37, wherein each set-up plan further includes a choice of investment amount.
- 20 39. The system of claim 38, wherein each set-up plan further includes a choice of whether to reinvest dividends.
 - 40. The system of claim 39, wherein each set-up plan further includes a choice of frequency and timing of investments.
- 41. The system of claim 40, wherein each set-up plan further includes a choice of account funding options.
 - 42. The system of claim 33, wherein investors open password protected accounts.
 - 43. An investment system that enables a plurality of investors to execute trades of securities, comprising:

a plurality of communication links;

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a processor in electronic communication with the plurality of investors through the plurality of communication links, the processor including a routine that allocates fractional shares of each purchased security to an investor's account based on each investor's fraction of an aggregated trade order, wherein the fractional shares are determined based on a ratio of each investor's dollar contribution to the aggregated trade order; and

a storage coupled to the processor that stores and distributes information about each aggregated trade order.

- 44. The system of claim 43, wherein the processor communicates with the plurality of investors via a WAN.
- 45. The system of claim 43, wherein the processor communicates with the plurality of investors via a LAN.
- 15 46. The system of claim 43, wherein the processor communicates with the plurality of investors via packet switch network.
 - 47. The system of claim 43, wherein the processor communicates with the plurality of investors via the Internet.
- 20 48. The system of claim 43, wherein the processor is configured to identify individual, joint, custodial, qualified individual retirement, or investment club accounts.
 - 49. The system of claim 43, wherein the aggregation routine includes a scheduled trade instruction that initiates scheduled periodic trade cycles.
 - 50. The system of claim 43, wherein the processor includes an electronic account funding routine.
 - 51. The system of claim 49, wherein the electronic account funding routine includes an accounting and credit posting routine that credits funds received by the system to an investor's account.

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- 52. The system of claim 49, wherein the system is configured to enable investors to fund investment accounts by check, wire, payroll, direct deposit or automated clearing house transaction.
- 53. The system of claim 43, wherein the processor includes a module configured to be programmable by an investor to initiates an automated clearinghouse plan funding routine that automatically debits funds from an investor account at another institution and credits such funds to the investor's investment account within the investing system.
- 10 54. The system of claim 53, wherein the automated clearing house plan funding routine identifies the presence or absence of valid automated clearing house transactions for each investment order instruction from an investor, and submits the valid automated clearing house transactions to a third party automated clearing house vendor for processing.
 - 55. The system of claim 43, wherein the processor includes a module that obtains active investment plans for active investor accounts.
- 56. The system of claim 43, wherein the processor identifies each active plan, and obtains active investment order instructions.
 - 57. The system of claim 43, wherein the processor evaluates investor scheduling instructions to determine all investors participating in a given periodic investing cycle.
 - 58. The system of claim 43, wherein the processor includes a module that aggregates investment order instructions for each security from each investor.
 - 59. The system of claim 43, wherein the processor evaluates buy and sell execution instructions.

60. The system of claim 43, wherein the processor calculates commissions associated with each participating investment instruction.

61. The system of claim 60, wherein the processor calculates a net investment amount by subtracting the commission from each investment amount instruction in an investment order instruction.

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- 62. The system of claim 43, wherein the processor interacts with a brokerage accounting system to suspend further execution instructions if a scheduled investment order instruction was for a one-time only trade.
- 63. The system of claim 43, wherein the processor evaluates investment order instructions for active investor plans.
- 64. The system of claim 43, wherein the processor calculates a trade date credit balance of active investor accounts with active investment order instructions to ensure the availability of sufficient funds for investment order instructions.
- 65. The system of claim 43, wherein the processor obtains a price quote for each security from a third party securities quote provider.
- 20 66. The system of claim 43, wherein the processor divides a dollar amount of the aggregated trade order for each security by a price quote for each security to calculate a quantity and rounds an order quantity up to a next number of whole shares if there is a fractional share.
 - 67. The system of claim 43, wherein the processor creates an order for each security with an order number, buy or sell indicator, the security symbol and an aggregated trade order type.
 - 68. The system of claim 43, wherein the processor groups transactions by investment order instruction type and security.

69. The system of claim 43, wherein the processor submits the aggregated trade orders for a given periodic investing cycle to a third party clearing organization.

- 70. The system of claim 43, wherein the processor identifies in an electronic report suspended orders that require manual intervention.
 - 71. The method of claim 43, wherein the processor receives an execution report from a clearing firm that is stored in a database in the storage.
- 10 72. The system of claim 1, wherein the processor averages a buy price of the aggregated trade order when more than one trade is required to fulfill the aggregated order.
 - 73. The system of claim 1, wherein the processor includes an account management routine that stores and organizes transaction information for each investor's account.
 - 74. The system of claim 1, wherein the processor includes an electronic document delivery system routine.

75. An investment system, comprising:

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an investment system including a processor in electronic communication with a plurality of investors through a plurality of communication links, the processor including an aggregation routine that receives order instructions from each investor of the plurality, aggregates security trade instructions from the plurality of investors to create an aggregated trade order for a security, and executes the aggregated trade order on behalf of the plurality of investors and a storage system coupled to the processor that stores and distributes information about each aggregated trade order;

a communication link that couples the investment system to an electronic user interface operated by a second party;

wherein the user interface of the second party is at least partially overlaid over the user interface of the investment system.

76. The system of claim 75, wherein the modified investment system user interface includes at least a portion of the look and feel of the second party's user interface.

77. The system of claim 75, wherein the communication link automatically directs investors into the investment system while retaining at least a portion of the second party's look and feel.

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78. A method of co-branding investing systems, comprising: providing an investment system including a processor in electronic communication with a plurality of investors through a plurality of communication links, the processor including an aggregation routine that receives order instructions from each investor of the plurality, aggregates security trade instructions from the plurality of investors to create an aggregated trade order for a security, and executes the aggregated trade order on behalf of the plurality of investors and a storage system coupled to the processor that stores and distributes information about each aggregated trade order, the investment system including a investment system graphical user interface;

providing a communication link that couples the investment system to an electronic user interface operated by a second party; at least partially overlaying the user interface of the second party over the user interface of the investment system; and creating a modified investment system user interface.

- 79. The method of claim 78, wherein the modified investment system user interface includes at least a portion of the look and feel of the second party's user interface.
- 80. The method of claim 78, further comprising:

 providing a plurality of modified user interfaces that adopt the logos and look and feel of a plurality of second parties; and establishing a plurality of communication links leading from a plurality of second parties' user interfaces to the investment system.

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8	1. A method for executing trading of securities, comprising:
d	etermining qualifying accounts and investment instructions;
C	reating an aggregated transaction by aggregating similar
investm	ent instructions:

creating an order for the aggregated transaction; calculating commissions for the aggregated transaction and executing the order.

- 82. The method of claim 81, wherein executing the order includes sending the aggregated transaction to a securities clearing firm.
- 83. The method of claim 81, wherein the step of creating the order includes,

obtaining price quotes for each security; calculating the number of shares of each security; and submitting an order to a brokerage accounting system.

- 84. The method of claim 82, further comprising: receiving an execution report from the clearing firm.
- 85. The method of claim 82, wherein the execution report contains price, time of transaction name of market where executed information.
- 86. A method for executing trading of securities, comprising: determining qualifying accounts and investment instructions; creating an aggregated transaction by aggregating similar investment instructions;

creating an order for the aggregated transaction;
calculating commissions for the aggregated transaction and
executing the order, wherein fractional shares of each
purchased security are allocated to an investor's account based on
each investor's fraction of the aggregated trade order.

30 87. A securities investment system that enables a plurality of individual investors to establish plans for the execution of execute one

time or recurring periodic trades of securities in dollar-based amounts, comprising:

a plurality of communication links;

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- a processor in electronic communication with the plurality of investors through the plurality of communication links which includes
 - a customer account set-up and edit module;
 - an investment plan set-up and edit module;
- an investment scheduling routine that receives investment order instructions from each investor in the plurality;
- a trade aggregation module which aggregates security trade instructions from the plurality of investors to create an aggregated trade order for each security offered by the investing system for which order instructions have been received, and executes the aggregated trade order on behalf of the plurality of investors;
 - a storage and reporting module which receives, organizes and provides reports concerning data provided to the processor by investors.
 - 88. The system of claim 87, wherein the processor communicates with the plurality of investors via a WAN.
- 20 89. The system of claim 87, wherein the processor communicates with the plurality of investors via a LAN.
 - 90. The system of claim 87, wherein the processor communicates with the plurality of investors via a packet switch network.
- 25 91. The system of claim 87, wherein the processor communicates with the plurality of investors via the Internet.
 - 92. The system of claim 87, wherein the processor is configured to identify individual, joint, custodial, qualified individual retirement, or investment club accounts.

93. The system of claim 87, wherein the aggregation routine includes a scheduled trade instruction that initiates scheduled periodic trade cycles.

94. The system of claim 87, wherein the processor includes an electronic account funding routine.

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- 95. The system of claim 93, wherein the electronic account funding routine includes an accounting and credit posting routine that credits funds received by the system to an investor's account.
- 96. The system of claim 93, wherein the system is configured to enable investors can fund investment accounts by check, wire, payroll, direct deposit or automated clearing house transaction.
 - 97. The system of claim 87, wherein the processor includes a module configured to be programmable by an investor to initiates an automated clearinghouse plan funding routine that automatically debits funds from an investor account at another institution and credits such funds to the investor's investment account within the investing system.
 - 98. The system of claim 97, wherein the automated clearing house plan funding routine identifies the presence or absence of valid automated clearing house transactions for each investment order instruction from an investor, and submits the valid automated clearing house transactions to a third party automated clearing house vendor for processing.
- 99. The system of claim 87, wherein the processor includes a module that obtains active investment plans for active investor accounts.
 - 100. The system of claim 87, wherein the processor identifies each active plan, and obtains active investment order instructions.

101. The system of claim 87, wherein the processor evaluates investor scheduling instructions to determine all investors participating in a given periodic investing cycle.

- 102. The system of claim 87, wherein the processor includes a module that aggregates investment order instructions for each security from each investor.
 - 103. The system of claim 87, wherein the processor evaluates buy and sell execution instructions.
- 104. The system of claim 87, wherein the processor calculates commissions associated with each participating investment instruction.
 - 105. The system of claim 104, wherein the processor calculates a net investment amount by subtracting the commission from each investment amount instruction in an investment order instruction.

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- 106. The system of claim 87, wherein the processor interacts with a brokerage accounting system to suspend further execution instructions if a scheduled investment order instruction was for a one-time only trade.
- 107. The system of claim 87, wherein the processor evaluates investment order instructions for active investor plans.
 - 108. The system of claim 87, wherein the processor calculates a trade date credit balance of active investor accounts with active investment order instructions to ensure the availability of sufficient funds for investment order instructions.
 - 109. The system of claim 87, wherein the processor obtains a price quote for each security from a third party securities quote provider.
 - 110. The system of claim 87, wherein the processor divides a dollar amount of the aggregated trade order for each security by a price

quote for each security to calculate a quantity and rounds an order quantity up to a next number of whole shares if there is a fractional share.

111. The system of claim 87, wherein the processor creates an order for each security with an order number, buy or sell indicator, the security symbol and an aggregated trade order type.

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- 112. The system of claim 87, wherein the processor groups transactions by investment order instruction type and security.
- 113. The system of claim 87, wherein the processor submits the aggregated trade orders for a given periodic investing cycle to a third party clearing organization.
 - 114. The system of claim 87, wherein the processor identifies in an electronic report suspended orders that require manual intervention.
- 15 115. The method of claim 87, wherein the processor receives an execution report from a clearing firm that is stored in a database in the storage.
 - 116. The system of claim 87, wherein the processor averages a buy price of the aggregated trade order when more than one trade is required to fulfill the aggregated order.
 - 117. The system of claim 87, wherein the processor includes an account management routine that stores and organizes transaction information for each investor's account.
 - 118. The system of claim 87, wherein the processor includes an electronic document delivery system routine.
 - 119. An investment system that enables a plurality of investors to execute trades of securities, comprising:
 - a plurality of communication links;
 - a processor in electronic communication with the plurality of investors through the plurality of communication links, the processor

including an aggregation routine that receives order instructions from each investor of the plurality, aggregates security trade instructions from the plurality of investors to create an aggregated trade order for each of a plurality of securities, and executes the aggregated trade order on behalf of the plurality of investors; and

a storage system coupled to the processor that stores and distributes information about each aggregated trade order.

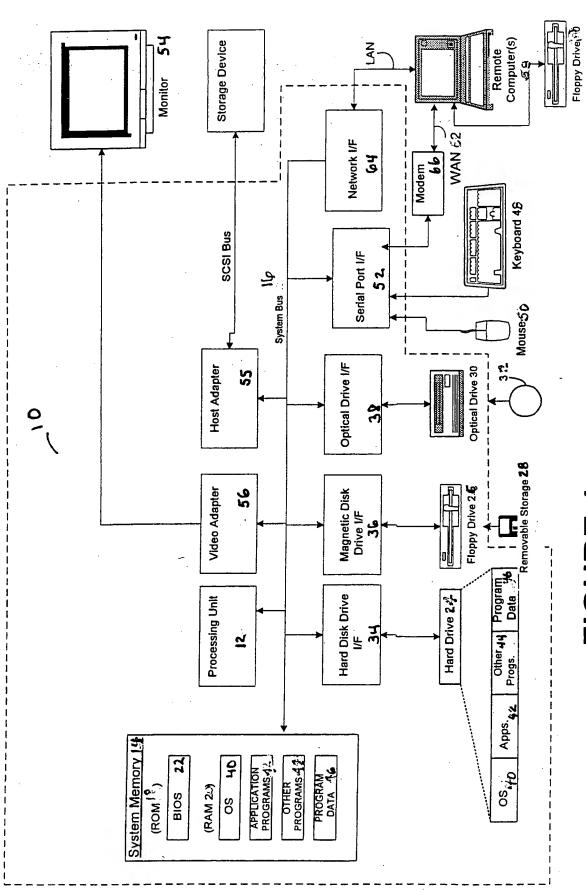
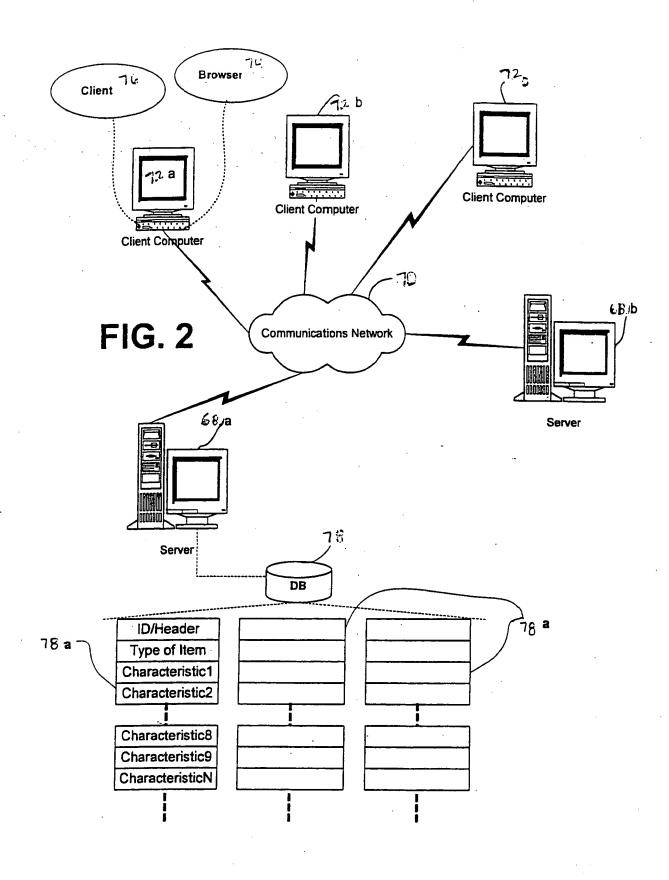


FIGURE 1

PCT/US00/31918



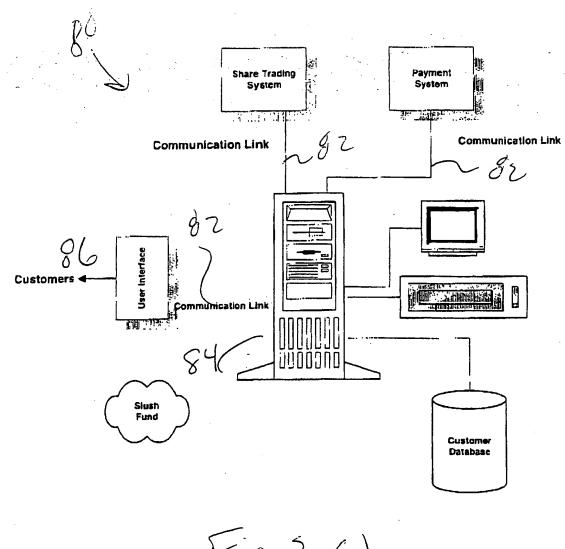
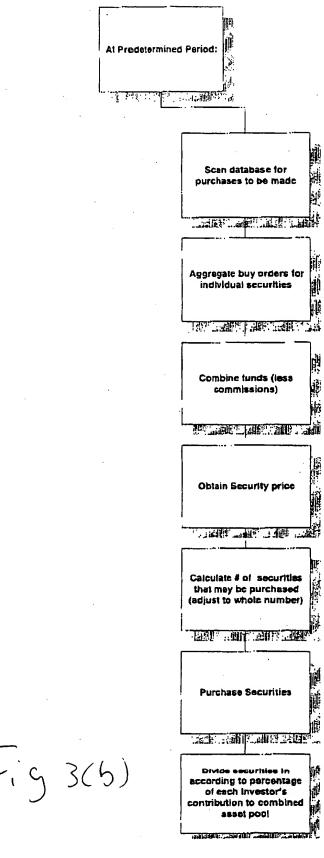
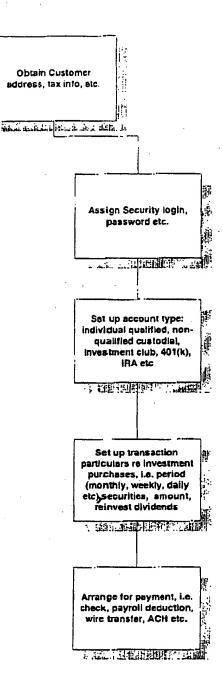


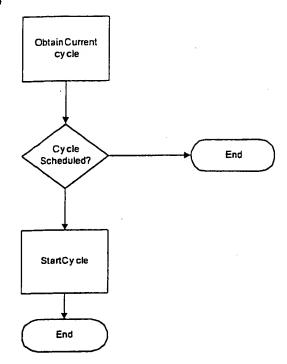
Fig 3 (a)



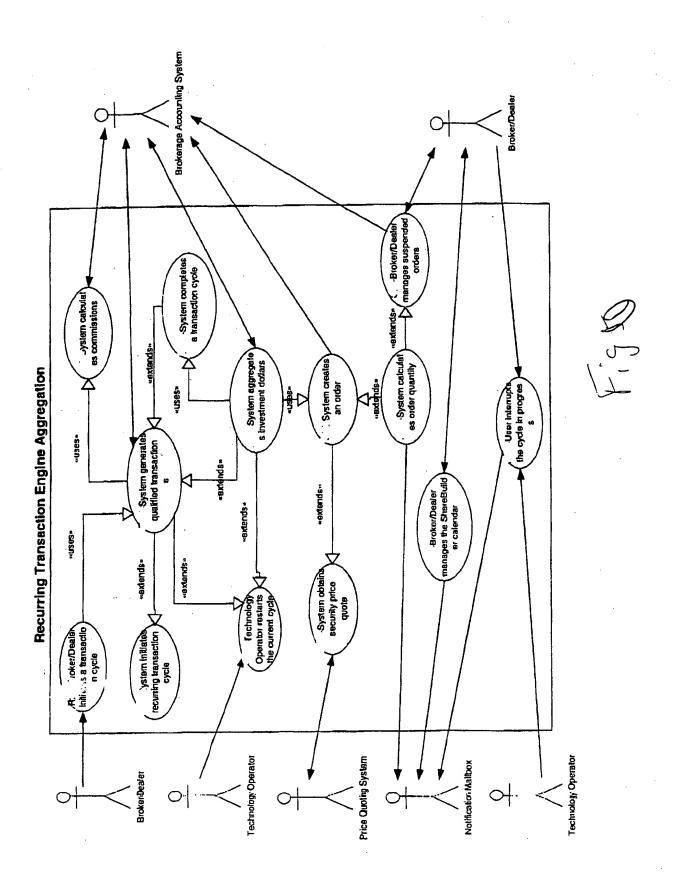


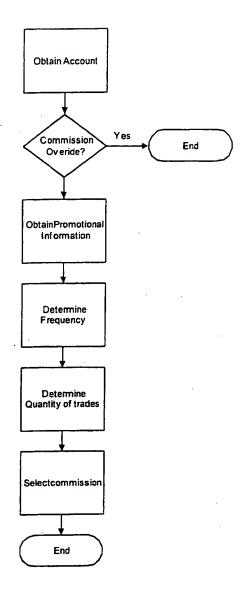
Figy

RTE4



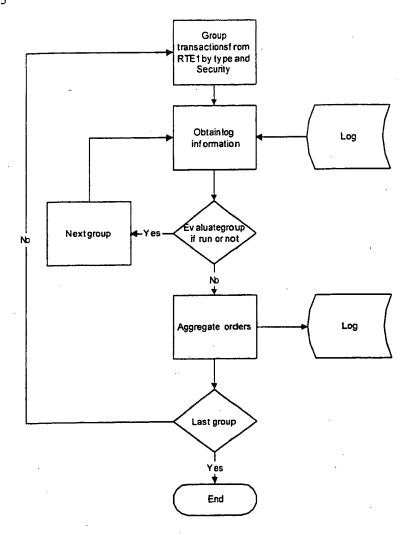






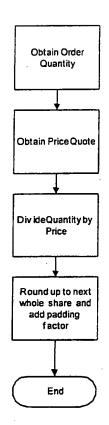
Fish

RTE3



Fig

RTE6





SB3

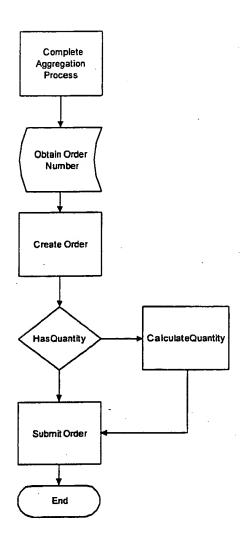


Fig 90

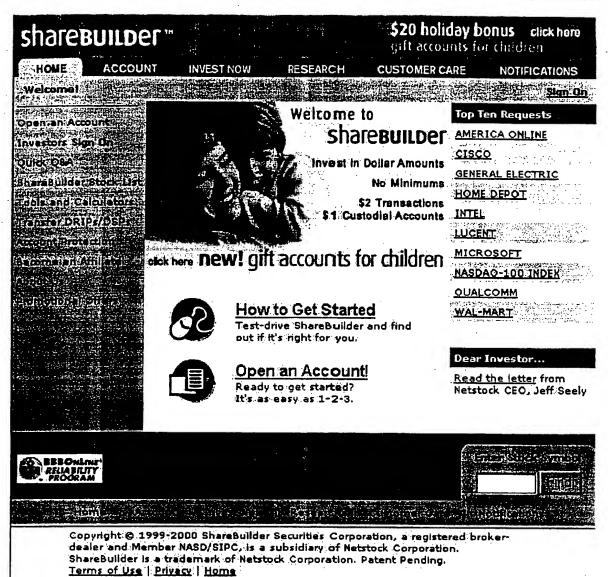
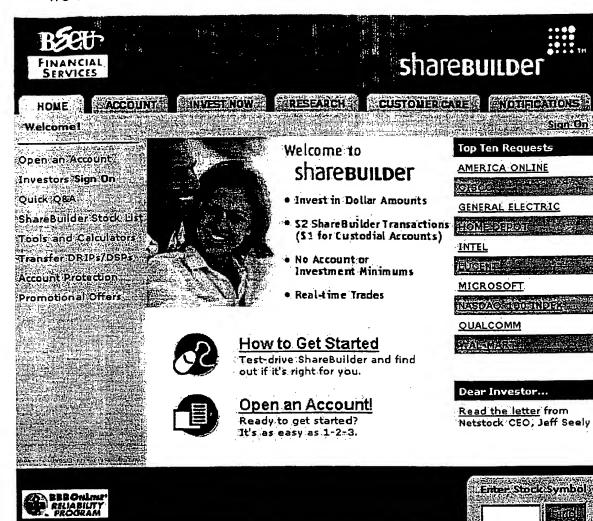


Fig 11



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